Nucleonica Trainers……

Joseph Magill, Ph.D.

Education

PhD in Computational Plasma Physics
University of Glasgow, 1975

Summary of Experience

Dr. Magill has more than 20 years experience in nuclear science and is the author of four books, more than 150 scientific publications and 10 patents.
Following a Ph.D. in computer simulation of laser driven fusion processes, he took up a position as theoretical physicist with the European Commission. He is one of the pioneers of the field of laser nuclear science in which nuclear reactions are induced by lasers – thereby offering a simple and inexpensive way of studying nuclear processes without a nuclear reactor or particle accelerator. Dr. Magill was a member of the Technical Working group on ADS and is one of the authors of the report: "A European Roadmap for Accelerator Driven Systems for Nuclear Waste Transmutation". He has acted as consultant to the IAEA in Vienna on Partitioning and Transmutation of Nuclear Waste, and coordinated a European benchmark exercise on radiotoxicity of spent nuclear fuel. Dr. Magill is an author on radiochemistry and nuclear chemistry in the Encyclopedia of Life Support Systems or EOLSS, an interdisciplinary encyclopedia sponsored by UNESCO.
He is the originator of Nuclides 2000, Nuclides.net, and the Nucleonica Nuclear Science Portal. Since 2003 he has been responsible for the organisation of nuclear science training courses based on the use of this internet technology. His current activities also include the management of the Karlsruhe Nuclide Chart – and the publication of the latest 7th edition. In 2011, Dr. Magill founded Nucleonica GmbH – a spin-off company from the European Commission's Joint Research Centre.

Raymond DREHER, Dipl. d'Ing.

Education:

Diplôme d''Ingénieur, option Génie physique
Institut National des Sciences Appliquées de Lyon, France, 1969

Summary of Experience:

Raymond Dreher had the opportunity to join the group of Prof. Hertz at the University of Karlsruhe where he acquired a first-hand experience in NMR pulse spectroscopy on the measurement of relaxation times of different alkali nuclides as salts in water solution. Raymond was also involved in the automation of this kind of measurement using programmable mini computers.
Later, Raymond joined a software startup where he was involved in many software projects covering a wide range of areas: automation of an infra-red spectrometer, in the material testing, data acquisition of a mechanical stress test machine, verifying and controlling of a steel production installation using and processing the data from sparks- and arc-spectrometers. Another main activity was the development of access control systems using different kind of card readers, information systems via intranet, and to the data exchange with payroll systems like Paisy and SAP R/3.
A few years ago, Raymond joined the Nucleonica team at ITU. One of his first tasks was to implement a relational database containing international evaluated datafiles such as JEFF3.1, Nubase 2003, and ICRP68/72, which forms the heart of Nucleonica. Raymond also developed new Nucleonica applications, using the latest web 2.0 technology and web services, and is continuously improving existing modules through the use of Ajax controls and java scripting. Raymond is also involved in the new electronic version of the Karlsruhe Nuclide Chart which is currently under development by the Nucleonica team.

Zsolt Soti, Ph.D

Education

MSc Mathematics- Computer Science University of Novi Sad (Yugoslavia)
PhD in Medical Informatics University of Lübeck (Germany)

Summay of Experience

At the beginning of his career Dr. Soti designed and optimised complex relational databases on UNIX servers. At 1994 he started to work on medical informatics and developed a Picture Archiving and Communication System for medical images (PACS) at the University of Szeged (Hungary). This was a pioneering project to use standardised formats to send/receive and save medical images. From the archived radiology and nuclear medicine examinations, several web-portals for educational purposes were created.
As of 2001 he continued to design and develop Picture Archiving System for nuclear medicine at the Schleswig-Holstein University in Germany. In that time he started with multidisciplinary research on the mathematical models of quantifications of 4-Dimensional Positron Emission Tomography examinations. He did his doctoral work on that topic. Dr. Soti is author about of 10 scientific publications. He has more than 20 years experiences in computer science. During his professional life he developed, designed and validated several ICT systems. For example, he was involved in projects for disaster recovery of large databases, secure and encrypted network communication, certifications, standardisation and expert judgement of different IT systems and development of different intranet applications.
As of 2009 Dr. Soti is an IT developer at the Joint Research Centre in Karlsruhe, Germany. He works on project related to the Nuclear Training and Knowledge Management Group. His main topics are: radioactive mixture identification based on gamma spectrum analysis and radiation therapy simulations with charged particles.

Jozsef Zsigrai, Ph.D

Education

graduated in physics in 1995 at the University of Szeged, Hungary.
Ph.D in theoretical physics in Budapest, 1999

Summay of Experience

From 1995 to 1998 he worked at the Institute for Particle and Nuclear Physics of the Hungarian Academy of Sciences where he conducted research in general relativity and gravitational physics, in particular on exact solutions of Einstein's equations describing compact, rapidly rotating massive objects. He spent two years in Japan at the University if Hiroshima, working on gravitational physics.
From 1999 to 2001 and from 2004 to 2009 as a research scientist at the Institute of Isotopes of the Hungarian Academy of Sciences he coordinated safeguards measurements of spent fuel for the Paks NPP in Hungary and he was working on the characterization of nuclear material seized from illicit trafficking incidents. He developed new non-destructive analytical methods for nuclear safeguards and nuclear forensics. The methods were mostly based on gamma spectrometry and neutron counting.
Since 2009 he works at the Institute of Transuranium Elements of the European Commission in Karlsruhe, where he is responsible for coordinating the work of the group for non-destructive analysis. He is also developing new non-destructive methods for the analysis of nuclear material.

Yann Donjoux

Education

Diplôme d'Ingénieur en Génie Atomique, INPG, 1996
Diplôme d'Ingénieur en Génie Électrique avec Orientation en Physique Appliquée, EIG, 1995

Yann Donjoux has 15 years of experience in radiation protection. After graduation, he took up a position at CERN in 1998 as an engineer in radiation protection, where he acquired a first-hand experience in working on the field with particle accelerators.
In 2000, he took up the responsibility for the analytical laboratory where he developed a dedicated network connecting the different gamma-spectroscopy installations, and he supervised the spectrometry measurements for the dismantling of the Large Electron Positron collider (LEP). For two years, he ensured laser safety for all CERN experiments. He was co-leading a project for designing and testing a radiological gate monitor for the dismantling of CERN experiments. At the same time, he took up the responsibility for the radioactive source service and the radioactive shipping service, dealing with 300 institutes around the world.
In 2003, he improved databases and web interfaces within RP Group, which permitted the creation of an interface and associated database for:

- managing the industrial radiographies performed on site
- managing radioactive sources lent to users
- managing shipment of radioactive goods by air and road

In 2008, he was appointed as an official guide for CERN, and participated in various exhibits.
In 2010, he conceived and developed a software solution for calculating the radiological characterization of packages for the shipment of radioactive material. This software is currently part of the computation tools available in Nucleonica portal. One year ago, he took a position as a scientific assistant to the head of radiation protection, leading the training or consulting in shipment of radioactive goods or gamma spectrometry laboratory.
His studies on the assessment of 55-Fe via X-ray spectrometry, and on dosimetry and spectrometry on radioactive waste have been published in scientific journals (Techniques de Mesures et de Protection, ATSR 2-1996 & ATSR 2-1997 ISSN 0397 -9210).